P. ENT COOPERATION TREA.

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF THE RECORDING OF A CHANGE

(PCT Rule 92bis.1 and Administrative Instructions, Section 422)

OTTEVANGERS, S., U.
Vereenigde
Nieuwe Parklaan 97
NL 2587 BN The Hague
PAYS-BAS

Date of mailing (day month year) 17 April 2000 (17.04.00)	
Applicant's or agent's file reference P21796PC00	**IMPORTANT NOTIFICATION**
International application No. PCT/NL99/00223	**International filing date** (day month year) 19 April 1999 (19.04.99)

1. The following indications appeared on record concerning:

[ ] the applicant [ ] the inventor [X] the agent [ ] the common representative

Name and Address

OTTEVANGERS, S., U.
Vereenigde Octrooibureaux
Nieuwe Parklaan 97
NL-2587 BN The Hague
Netherlands

State of Nationality:

State of Residence:

Telephone No.: 070-41 66 711

Facsimile No.: 070-41 66 799

Teleprinter No.:

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

[ ] the person [ ] the name [X] the address [ ] the nationality [ ] the residence

Name and Address

OTTEVANGERS, S., U.
Vereenigde
Nieuwe Parklaan 97
NL-2587 BN The Hague
Netherlands

State of Nationality:

State of Residence:

Telephone No.: 070-41 66 711

Facsimile No.: 070 41 66 799

Teleprinter No.:

3. Further observations, if necessary:
Please note that the agent's company's name has changed.

4. A copy of this notification has been sent to:

[X] the receiving Office

[illegible]
[illegible]
[illegible]

P . ENT COOPERATION TREA .

From the INTERNATIONAL BUREAU

Assistant Commissioner for Patents
United States Patent and Trademark Office
Box PCT
Washington, D.C 20231
ETATS UNIS D'AMÉRIQUE

in its capacity as elected Office

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

Date of mailing (day month year) 09 December 1999 (09.12.99)	
International application No. PCT NL99 00223	**Applicant's or agent's file reference** P21796PC00
International filing date (day month year) 19 April 1999 (19.04.99)	**Priority date** (day month year) 20 April 1998 (20.04.98)
Applicant JANSEN, Gijsbert, Johan et al	

1. The designated Office is hereby notified of its election made:

   - [X] in the demand filed with the International Preliminary Examining Authority on:

     16 November 1999 (16.11.99)

   - [ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

   [ ] was not

16

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
P21796PC00		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/NL99/00223	19/04/1999	20/04/1998
International Patent Classification (IPC) or national classification and IPC C12Q1/68		
Applicant ACADEMISCH ZIEKENHUIS GRONINGEN et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
   - VI ☐ Certain documents cited
   - VII ☒ Certain defects in the international application
   - VIII ☒ Certain observations on the international application

Name and mailing address of the international preliminary examining authority
European Patent Office
D-80298 Munich
Tel. +49 89 2399-0 Tx:
Fax: +49 89 2399-4465

Authorized officer
Baro W
Telephone No. +49 89 2399 7837

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL99/00223

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-31 as originally filed

Claims, No.:

1-26 as received on 24/07/2000 with letter of 24/07/2000

Drawings, sheets:

1/1 as originally filed

2. The amendments have resulted in the cancellation of:

☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-26
	No:	Claims	
Inventive step (IS)	Yes:	Claims	24-25
	No:	Claims	1-23, 26
Industrial applicability (IA)	Yes:	Claims	1-26
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

ITEM VIII:

Reference is made to the following documents:

D1: EP-A-0 479 117 (HOFFMANN LA ROCHE); 8 April 1992;
D2: WO 97 05282 A (UNIV GRONINGEN); 13 February 1997;

1. NOVELTY

Claims 1-26 meet the requirements of Article 33(2) PCT, because none of the available prior art documents discloses the same combination of features as any of these claims.

2. INVENTIVE STEP

However, **claims 1-23 and 26** do not appear to meet the requirements of Article 33(3) PCT for the following reasons:

2.1 Document D2, which is considered to represent the most relevant state of the art, discloses a method for determining bacteria in a sample, said method comprising the testing of the sample with an oligonucleotide probe by using an in situ hybridization protocol (abstract; page 2, line 25 - page 3, line 16; claims 1-7). Compared to D2, the subject-matter of **claim 1** of the present application differs only by the pre-testing of the sample using Gram-staining. The effect of said pre-testing is that the in-situ hybridization will be more efficient due to appropriate lysis conditions. Therefore, the technical problem to be solved by present claim 1 may be regarded as how to provide an improved hybridization method for determining bacteria.

However, the solution proposed in claim 1 cannot be considered as involving an inventive step (Article 33(3) PCT) because steps (a) and (b) do not appear to be linked by a clear technical relationship. Since the subject-matter of step (b) is merely defined in terms of the result to be achieved (see item VIII-1.

below), the interrelationship between steps (a) and (b) of claim 1 cannot be considered as a technical interrelationship. Thus, the method of claim 1 appears to be merely a juxtaposition of known processes functioning in their normal way and not producing any non-obvious working interrelationship (PCT Guidelines IV-8.8 (B1)). Therefore, the method of claim 1 cannot be considered inventive in the sense of Article 33(3) PCT.

2.2 The dependent **claims 2-23** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT with respect to inventive step, the reasons being as follows:

- Clinical samples (claim 2), the determination of the rod or coccus character (i.e. the shape) of the bacteria (claims 4, 9 and 11), rRNA as the template nucleic acid (claims 6, 14 and 18), treatment of the sample with lysozyme (claims 8, 10 and 12), probes capable of hybridizing with nucleic acids from E. faecalis and S. sanguis (claim 13), positive and negative control probes (claim 20), one-step procedures of binding and fixing bacteria simultaneously (claim 22), as well as genera- and species-specific probes (claim 23) are also known from document D2 (abstract; page 3, lines 7-16; page 8, lines 20-26; page 12, lines 13-14; page 14, lines 5-8, 17 and 20-21; figure 1; claims 3, 5-6, 8 and).
- Blood (claim 3) as a sample is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill.
- Similarly, the treatment of the sample with lysostaphin or proteinase K (claim 16) is a well-known and obvious selection, which a skilled person regard as a normal option to be included in the method of claim 1 in order to lyse the bacteria.
- Probes capable of hybridizing with nucleic acids from the bacteria given in claims 5 and 17 are also obvious, because these bacteria straightforward possibilities which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed.
- Finally, the probes having the specific sequences given in claims 7, 15, 19 and 21 cannot be considered inventive (Article 33(3) PCT), because these sequences do

2.3 Since the method according to claims 1-23 is not inventive (see above), diagnostic test kits according to **claim 26** (comprising means for detecting or identifying bacteria in a sample using said method) also cannot be considered inventive (Article 33(3) PCT).

2.4 In contrast, the probe according to **claims 24-25** appears to be inventive (Article 33(3) PCT) for the following reasons:

Document D1, which is considered to represent the closest prior art, discloses probes for detecting or identifying bacteria in a sample, said probe designed to hybridise specifically with nucleic acid in groups of bacterial species (abstract; page 2, lines 34-39; page 3, lines 49-51; page 6, line 55 to page 7, line 5). Compared to said probes of D1, the probe according to **claim 24** differs by its specificity for bacteria with congruent susceptibility or resistance to antibiotics.

Therefore, the problem to be solved by claim 24 may be regarded as how to provide a hybridization probe having specificity for bacteria with congruent susceptibility or resistance to antibiotics. Since the available prior art neither discloses nor suggests such a specificity of hybridization probes, the skilled person would not consider including this feature in the probe according to D1. Consequently, the subject-matter of **claim 24** and its dependent **claim 25** appears to be inventive in the sense of Article 33(3) PCT.

3. INDUSTRIAL APPLICABILITY

The subject-matter of claims 1-26 appears to be industrially applicable in the sense of Article 33(4) PCT.

ITEM VII:

[illegible] disclosed in the documents [illegible] are not mentioned in the description of the art these documents identified therein.

ITEM VIII:

1. **Claim 1** does not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The claim attempts to define the subject-matter in terms of the result to be achieved ("according to an in situ hybridization protocol selected on the basis of [...]") which merely amounts to a statement of the underlying problem. In the absence of the technical features necessary for achieving this result, claim 1 is not clear in the sense of Article 6 PCT.

2. The term "probe" used in **claims 1 and 24** is vague and unclear and leaves the reader in doubt as to the chemical nature of such "probe" (oligonucleotide? DNA or RNA?), thereby rendering the definition of the subject-matter of said claims unclear (Article 6 PCT).

3. **Claims 5, 13, 17, and 24** do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The claims attempt to define the subject-matter in terms of the result to be achieved ("[...] probes capable of hybridising with nucleic acid found in [...]") which merely amounts to a statement of the underlying problem. An analogous objection applies to **claim 23** ("[...] probe is selected for its reactivity with [...]"). Thus, the technical features necessary for achieving these results should be added.

PATENT COOPERATION TREATY

VVE

Gevraagde prioriteit

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

OTTEVANGERS, S.U.
VEREENIGDE
Nieuwe Parklaan 97
NL-2587 BN The Hague
PAYS-BAS

ONTVANGEN
15 AUG 2000
AMERSFOORT

NRT2 20-10-2000

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Rule 71.1)

e TERMIJN
ar
0 9 AUG. 2000

Beantwoord voorl. def MAP | bericht gezonden aan dd

Date of mailing *(day/month/year)* 01.08.2000

Applicant's or agent's file reference
P21796PC00

IMPORTANT NOTIFICATION

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/NL99/00223	19/04/1999	20/04/1998

Applicant
ACADEMISCH ZIEKENHUIS GRONINGEN et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

European Patent Office
D-80298 Munich

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION** see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/NL 99/ 00223	19/04/1999	20/04/1998
Applicant		
ACADEMISCH ZIEKENHUIS GRONINGEN. et al		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international Search Report consists of a total of 3 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

[ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

[ ] contained in the international application in written form.

[ ] filed together with the international application in computer readable form.

[ ] furnished subsequently to this Authority in written form.

[ ] furnished subsequently to this Authority in computer readble form.

[ ] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

[ ] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [ ] **Certain claims were found unsearchable** (See Box I).

3 [ ] **Unity of invention is lacking** (see Box II)

4 With regard to the **title,**

[ ] the text is approved as submitted by the applicant.

[X] the text has been established by this Authority to read as follows:

METHOD FOR THE RAPID DETERMINATION OF BACTERIA

5. With regard to the **abstract,**

drawings

[ ] as suggested by the applicant

[ ] because the applicant failed to suggest a figure

[ ] None of the figures

INTERNATIONAL SEARCH REPORT

International Application No
PCT/NL 99/00223

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 C12Q1/68 C12Q1/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 277 237 A (TORAY INDUSTRIES) 10 August 1988 (1988-08-10) the whole document ---	1-23
Y	WO 93 24659 A (MICROPROBE CORP) 9 December 1993 (1993-12-09) page 2 - page 3; claim 1 ---	1-23
Y	FR 2 659 981 A (VEF SA) 27 September 1991 (1991-09-27) see abstract; claim 1 ---	1-23
Y	EP 0 479 117 A (HOFFMANN LA ROCHE) 8 April 1992 (1992-04-08) the whole document ---	1-23
	-/--	

[X] Further documents are listed in the continuation of box C

[X] Patent family members are listed in annex

Special categories of cited documents

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

[illegible] July 1999

[illegible] 1999

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2

Authorized officer

INTERNATIONAL SEARCH REPORT

International Application No
PCT/NL 99/00223

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 05282 A (UNIV GRONINGEN ;WELLING GJALT WIETZE (NL); SCHUT FREDERIK (NL); LA) 13 February 1997 (1997-02-13)	24,25
Y	page 2 - page 3, ln 16; pages 12 and 13; claim 7.	1-23

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/NL 99/00223

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0277237 A	10-08-1988	WO 8800618 A	28-01-1988
WO 9324659 A	09-12-1993	AU 4396793 A	30-12-1993
		EP 0672183 A	20-09-1995
		US 5700636 A	23-12-1997
		US 5654418 A	05-08-1997
		US 5776694 A	07-07-1998
FR 2659981 A	27-09-1991	NONE	
EP 0479117 A	08-04-1992	AU 657491 B	16-03-1995
		AU 8489591 A	09-04-1992
		CA 2052822 A	06-04-1992
		JP 6090799 A	05-04-1994
		US 5620847 A	15-04-1997
		US 5635348 A	03-06-1997
WO 9705282 A	13-02-1997	AU 6631696 A	26-02-1997
		EP 0842298 A	20-05-1998

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : C12Q 1/68, 1/04 — A1

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(43) International Publication Date: 28 October 1999 (28.10.99)

(21) International Application Number: PCT/NL99/00223

(22) International Filing Date: 19 April 1999 (19.04.99)

(30) Priority Data:
98201253.6 20 April 1998 (20.04.98) EP

(71) Applicants *(for all designated States except US)*: ACADEMISCH ZIEKENHUIS GRONINGEN [NL/NL]; Oostersingel 59, NL–9713 EX Groningen (NL). RIJKSUNIVERSITEIT TE GRONINGEN [NL/NL]; Broerstraat 5, D–9712 CP Groningen (NL).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: JANSEN, Gijsbert, Johan [NL/NL]; Suderspaerlân 16, NL–9061 BJ Giekerk (NL). DEGENER, John, Edward [NL/NL]; de Rozentuin 1, NL–9203 LP Drachten (NL). WELLING, Gjalt, Wietze [NL/NL]; Hoofdstraat 48, NL–9315 PC Roderwolde (NL).

(74) Agent: OTTEVANGERS, S., U.; Vereenigde Octrooibureaux, Nieuwe Parklaan 97, NL–2587 BN The Hague (NL).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: METHOD FOR THE RAPID DETERMINATION OF BACTERIA

(57) Abstract

The invention relates to the detection, identification and diagnosis of bacteria in samples in general and in particular in clinical samples such as blood, urine, saliva, cerebrospinal fluid that are taken from patients that are possibly infected with a, as yet, unknown, possibly pathogenic bacterium, or during follow–up diagnostic testing to, for example, evaluate therapeutic measures that have been taken so far to treat the disease. The invention provides a method for detecting or identifying a bacterium suspected of being present in a sample comprising testing said sample by Gram–staining and testing said sample with a probe according to an *in situ* hybridisation protocol selected on the basis of the outcome of said Gram–staining. The invention also provides probes for use in said method.

ART 34

CLAIMS

1. A method for determining a bacterium suspected of being present in a sample comprising
a) testing said sample by Gram-staining and
b) testing said sample with a probe according to an *in situ* hybridisation protocol selected on the basis of the outcome of said Gram-staining.

2. A method according to claim 1 wherein said sample is a clinical sample.

3. A method according to claim 2 wherein said sample is mammalian blood, preferably being derived from a human.

4. A method according to claim 1, 2 or 3 wherein said Gram-staining indicates the presence of a Gram-negative bacterium in said sample, further comprising determining the rod or coccus character of said bacterium.

5. A method according to claim 4 wherein said character is of the rod type, further comprising hybridising said sample with at least one probe selected from a group of probes capable of hybridising with nucleic acid found in *Escherichia coli*, in *Klebsiella pneumoniae*, in *Klebsiella oxytoca*, in *Serratia marcescens*, in *Enterobacter aerogenes*, in *Enterobacter cloacae*, in *Proteus vulgaris*, in *Proteus mirabilis*, in *Salmonella typhi*, in *Pseudomonas aeruginosa*.

6. A method according to claim 5 wherein said nucleic acid is ribosomal RNA.

7. A method according to claim 6 wherein said probe is having no more than five, preferably no more than two mismatches with a probe selected of a group composed of probes having a sequence GCCTCCCAGTTTCCGAATG or GTAGCCCTACTCGTAAGG or GAGAAAGGTATTAACTTTACTCCC or

sample to treatment with a lysis buffer comprising lysozyme.

9. A method according to claim 1, 2 or 3 wherein said Gram-staining indicates the presence of a Gram-positive bacterium in said sample, further comprising determining the rod or coccus character of said bacterium.

10. A method according to claim 9 wherein said character is of the rod type, further comprising subjecting said sample to treatment with a lysis buffer comprising lysozyme and/or Proteinase K.

11. A method according to claim 9 wherein said character is of the coccus type, further comprising determining a chain-like or clump-like character of said bacteria.

12. A method according to claim 11 wherein said character is chain-like, further comprising subjecting said sample to treatment with a lysis buffer comprising lysozyme.

13. A method according to claim 12 further comprising hybridising said sample with at least one probe selected from a group of probes capable of hybridising with nucleic acid found in *Enterococcus faecalis*, in *Streptococcus pneumoniae*, in *Streptococcus mitis*, in *Streptococcus viridans*, in *Streptococcus sanguis*, in *Enterococcus faecium*.

14. A method according to claim 13 wherein said nucleic acid is ribosomal RNA.

15. A method according to claim 14 wherein said probe is having no more than five, preferably no more than two mismatches with a probe selected of a group composed of probes having a sequence TTATCCCCCTCTGATGGG or AGAGAAGCAAGCTTCTCGTCCG or GCCAGTCCTCTTTTTCCGG.

16. A method according to claim 11 wherein said character is clump-like, further comprising subjecting said sample to treatment with a lysis buffer comprising lysostaphin and/or Proteinase K.

from a group of probes capable of hybridising with nucleic acid found in *Staphylococcus aureus*, in *Staphylococcus haemolyticus*, in *Staphylococcus saprophyticus*.

18. A method according to claim 17 wherein said nucleic acid is ribosomal RNA.

19. A method according to claim 18 wherein said probe is having no more than five, preferably no more than two mismatches with a probe selected of a group composed of probes having a sequence GCTAATGCAGCGCGGATCC or CCGAAGGGGAAGGCTCTA or AGAGAAGCAAGCTTCTCGTCCGTT.

20. A method according to any of claims 4 to 19 further comprising hybridising said sample with at least one positive control probe and/or with at least one negative control probe.

21. A method according to claim 20 wherein said positive control probe comprises no more than five mismatches with a probe with the sequence GCTGCCTCCCGTAGGAGT and/or wherein said negative control probe comprises no more than five mismatches with a probe with the sequence ACTCCTACGGGAGGCAGC.

22. A method according to anyone of claims 1 to 21 further comprising a one-step procedure to bind bacteria present in said sample to a microscopic slide and simultaneously fix intracellular structures.

23. A method according to anyone of claims 1 to 22 wherein said probe is selected for its reactivity with one or a group of bacterial genera and/or species having congruent susceptibility to antibiotic treatment.

24. A probe detecting or identifying a bacterium in a sample, preferably a clinical sample, said probe capable of hybridising with nucleic acid found in a group of bacterial genera and/or species having congruent susceptibility to antibiotic treatment.

25. A probe according to

probes having a sequence GCCTGCCAGTTTCGAATG or GTAGCCCTACTCGTAAGG or GAGCAAAGGTATTAACTTTACTCCC or GTTAGCCGTCCCTTTCTGG or TTATCCCCCTCTGATGGG or AGAGAAGCAAGCTTCTCGTCCG or GCCACTCCTCTTTTTCCGG or GCTAATGCAGCGCGGATCC or CCGAAGGGGAAGGCTCTA or AGAGAAGCAAGCTTCTCGTCCGTT.

26. A diagnostic test kit comprising means for detecting or identifying a bacterium suspected of being present in a sample using a method according to anyone of claims 1 to 23 or using a probe according to claim 24 or 25.